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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,032	06/13/2005	Ken-ichi Inui	4439-4034	8848

27123 7590 09/27/2007

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NEW YORK, NY 10281-2101

EXAMINER	
LI, RUIXIANG	

ART UNIT	PAPER NUMBER
1646	

NOTIFICATION DATE	DELIVERY MODE
09/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
Shopkins@Morganfinnegan.com
Tquinones@Morganfinnegan.com

Office Action Summary	Application No.	Applicant(s)	
	10/539,032	INUI ET AL.	
	Examiner	Art Unit	
	Ruixiang Li	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Sequence alignment*.

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

I. Claims 1-3, 6, 10-13, 18, 20 (in part), drawn to a DNA which comprises a base sequence shown by SEQ ID NO: 1 or a sequence containing part of the sequence, a host cell, and a method for producing a polypeptide.

II. Claims 4, and 5, drawn to a polypeptide which comprises SEQ ID NO: 2 or a variant thereof.

III. Claims 7-9, 20 (in part), drawn to an antibody.

IV. Claim 14, drawn to a method for screening a substance having a glucose and/or fructose transporter function-regulation activity.

V. Claims 15 and 16, drawn to a non-human animal model which develops renal diabetes caused by a defect in renal glucose reabsorption.

VI. Claim 17, drawn to a method for screening a preventive/therapeutic drug for renal diabetes caused by a defect in glucose reabsorption.

VII. Claim 19, claim 19, drawn to a microarray or a DNA chip for diagnosing glucose and/or fructose transporter function.

VIII. Claims 21 and 22, drawn to a method for diagnosing glucose and/or fructose transporter function by measuring its gene expression using a probe.

IX. Claims 23 and 24, drawn to a method for diagnosing glucose and/or fructose transporter function by measuring the polypeptide using an antibody.

X. Claim 25, drawn to a method for diagnosing glucose and/or fructose transporter function by measuring the transporter function in a renal disease.

XI. Claims 26-29, drawn to a method for regulating glucose and/or fructose transporter function in an animal tissue cell.

2. The inventions listed as Groups I-XI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking Groups I-XI appears to be a DNA which comprises a base sequence shown by SEQ ID NO: 1 or a sequence containing part of the sequence. However, claim 1 is anticipated by Database EST, Accession No. BZ096172 (October 10, 2002), which teaches a nucleic acid sequence comprising nucleotides 1371 to 2173 (except position 1625) of SEQ ID NO: 1 of the present invention (see attached sequence alignment). Therefore, the technical feature linking the inventions of Groups I-XI does not constitute a special technical feature as defined by PCT Rule 13.2, as it does not define a contribution over the prior art.

3. The special technical features of Groups I-III are, a DNA which comprises a base sequence shown by SEQ ID NO: 1 or a sequence containing part of the sequence,

a host cell, and a method for producing a polypeptide, a polypeptide which comprises SEQ ID NO: 2 or a variant thereof, and an antibody, respectively.

The special technical features of Groups IV-VI are a method for screening a substance having a glucose and/or fructose transporter function-regulation activity, a non-human animal model which develops renal diabetes caused by a defect in renal glucose reabsorption, and a method for screening a preventive/therapeutic drug for renal diabetes caused by a defect in glucose reabsorption, respectively.

The special technical feature of Group VII is a microarray or a DNA chip for diagnosing glucose and/or fructose transporter function.

The special technical features of Groups VIII-X are a method for diagnosing glucose and/or fructose transporter function by measuring its gene expression using a probe, a method for diagnosing glucose and/or fructose transporter function by measuring the polypeptide using an antibody, and a method for diagnosing glucose and/or fructose transporter function by measuring the transporter function in a renal disease, respectively.

The special technical feature of Group XI is a method for regulating glucose and/or fructose transporter function in an animal tissue cell.

4. Accordingly, Groups I-XI are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept. Thus, unity of invention is lacking and restriction is appropriate.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48 (b) if

one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48 (b) and by the fee required under 37 CFR 1.17 (l).

Advisory Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruixiang Li whose telephone number is (571) 272-0875. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nickol, can be reached on (571) 272-0835. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, please contact the Electronic Business Center (EBC) at the toll-free phone number 866-217-9197.

Ruixiang Li

Ruixiang Li, Ph.D.
Primary Examiner
September 22, 2007

RUIXIANG LI, PH.D.
PRIMARY EXAMINER

EST

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BZ096172
LOCUS       BZ096172                825 bp    DNA     linear   GSS 10-OCT-2002
DEFINITION  CH230-141P7.TJB CHORI-230 Segment 1 Rattus norvegicus genomic clone
            CH230-141P7, genomic survey sequence.
ACCESSION   BZ096172
VERSION     BZ096172.1  GI:23737056
KEYWORDS    GSS.
SOURCE      Rattus norvegicus (Norway rat)
  ORGANISM  Rattus norvegicus
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
            Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
REFERENCE   1  (bases 1 to 825)
  AUTHORS   Zhao,S., Shetty,J., Shatsman,S., Tsegaye,G., Geer,K.,
            Shvartsbeyn,A., Gebregeorgis,E., Overton,L., Russell,D., Chen,D.,
            Riggs,F., de Jong,P. and Fraser,C.M.
  TITLE     Rat BAC End Sequences from Library CHORI-230 EcoRI segment
  JOURNAL   Unpublished (1999)
COMMENT     Contact: Shaying Zhao
            Department of Eukaryotic Genomics
            The Institute for Genomic Research
            9712 Medical Center Dr., Rockville, MD 20850, USA
            Tel: 301 838 0200
            Fax: 301 838 0208
            Email: szhao@tigr.org
            Clones are derived from the rat BAC library CHORI-230
            (http://www.chori.org/bacpac/rat230.htm). For BAC library
            availability, please contact Pieter de Jong (pdejong@mail.cho.org).
            Clones may be purchased from BACPAC Resources
            (http://www.chori.org/bacpac/or ering_information.htm). BAC end
            page: http://www.tigr.org/tdb/bac_ends/rat/bac_end_intro.html
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            Class: BAC ends.
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                     /note="Vector: pTARBAC2.1; Site_1: EcoRI; Site_2: EcoRI;
                     CHORI-230 Rat (BN/SsNHsd/MCW) BAC library produced by
                     Pieter de Jong"
ORIGIN

  Query Match             36.8%;  Score 799.8;  DB 16;  Length 825;
  Best Local Similarity   99.8%;  Pred. No. 1.9e-223;
  Matches  801;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1371 CTTCAGGGACACTATCCCGATCTGCCAGTAATTCTGTACATGTGTCTGGGCTCAGCAGTA 1430
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy       1431 TTAACAACTGTGTTATTCCCTGTGATGTATAAAGTAGCCACCTTACCTCTGGATCGAAAG 1490
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Qy       1971 AGAAATAGTTTTAAACGTATGCTCCTGGGGCTGGTGAGATGGCTTAGTGGTTAAGAGCAC 2030
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